

**The Citation Eleven**

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**Professional Solid State  
Stereophonic Preamplifier/Audio Equalizer**

**Technical Manual**

**harman/kardon**

# REPLACEMENT PARTS

| CIRCUIT<br>REF.   | DESCRIPTION                      | HK<br>PART NO. |
|-------------------|----------------------------------|----------------|
| <b>CAPACITORS</b> |                                  |                |
| C1, C2            | Disc, 600 PF $\pm 10\%$ , 500V   | 30418336       |
| C3, C4, C5        | Disc, 0.01 UF, 1400V             | 30418307       |
| C6                | Lytic, 1000 UF, 100V             | 31126416       |
| C7                | Mylar 0.1 UF $\pm 10\%$ , 100V   | 30222073       |
| C8                | Poly, 0.01 UF $\pm 5\%$ , 63V    | 30618929       |
| C9, C10           | Mylar, 0.1 UF $\pm 10\%$ , 100V  | 30222073       |
| C11               | Poly, 0.01 UF $\pm 5\%$ , 63V    | 30618929       |
| C12-C500          | Not Used                         |                |
| C501              | Mylar, 1 UFD, $\pm 10\%$ , 100V  | 31918839       |
| C502              | Disc, 150 PF $\pm 10\%$ , 100V   | 31718873       |
| C503              | Mylar, 1 UF, 100V                | 31918839       |
| C504              | Disc, 47 PF $\pm 20\%$ , 100V    | 31718776       |
| C505              | Mylar, 2700 PF $\pm 5\%$ , 100V  | 31918939       |
| C506              | Poly, .01 UF $\pm 5\%$ , 63V     | 30618929       |
| C507              | Lytic, 100 UF, 16V               | 31818880       |
| C508              | Mylar, 1 UFD $\pm 10\%$ , 100V   | 31918839       |
| C509              | Disc, 150 PF $\pm 10\%$ , 100V   | 31718873       |
| C510              | Mylar, 1 UF, 100V                | 31918839       |
| C511              | Disc, 47 PF $\pm 20\%$ , 100V    | 31718776       |
| C512              | Mylar, 2700 PF $\pm 5\%$ , 100V  | 31918939       |
| C513              | Poly, .01 UF $\pm 5\%$ , 63V     | 30618929       |
| C514              | Lytic, 100 UF, 16V               | 31818880       |
| C515, C516        | Lytic, 10 UF, 35V                | 31518805       |
| C517              | Lytic, 50 UF, 25V                | 31518919       |
| C518              | Mylar, 1 UF, 100V                | 31918839       |
| C519              | Disc, 47 PF $\pm 20\%$ , 100V    | 31718776       |
| C520              | Lytic, 200 UF, 15V               | 31518802       |
| C521              | Disc, 22 PF $\pm 10\%$ , 500V    | 31718798       |
| C522              | Mylar, 1 UF, 100V                | 31918839       |
| C523, C524        | Lytic, 10 UF, 35V                | 31518805       |
| C525              | Disc, 47 PF $\pm 20\%$ , 100V    | 31718776       |
| C526              | Lytic, 200 UF, 15V               | 31518802       |
| C527              | Disc, 22 PF $\pm 10\%$ , 500V    | 31718798       |
| C528, C529        | Disc, 47PF $\pm 20\%$ , 100V     | 31718776       |
| C530-C600         | Not Used                         |                |
| C601              | Mylar, 1 UF, 100V                | 31918839       |
| C602              | Lytic, 10 UF, 35V                | 31518805       |
| C603              | Mylar, 1 UF, 100V                | 31918839       |
| C604              | Disc, 470 PF $\pm 10\%$ , 500V   | 31718825       |
| C605              | Disc, 47 PF $\pm 20\%$ , 100V    | 31718776       |
| C606              | Lytic, 10 UF, 35V                | 31518805       |
| C607              | Lytic, 5 UF, 25V                 | 31818905       |
| C608              | Mylar, .39 UF $\pm 10\%$ , 100V  | 31919089       |
| C609              | Mylar, 0.22 UF $\pm 10\%$ , 100V | 31918791       |
| C610              | Mylar, .047 UF $\pm 10\%$ , 100V | 31918808       |
| C611              | Mylar, .015 UF $\pm 10\%$ , 100V | 31918803       |
| C612-C800         | Not Used                         |                |
| C801-C805         | Lytic, 50 UF, 100V               | 31818897       |
| C806              | Lytic, 47 UF, 63V                | 31518899       |
| C807              | Lytic, 500 UF, 50 V              | 31827095       |
| C808              | Lytic, 47 UF, 63V                | 31518899       |
| C809              | Lytic, 500 UF, 50 V              | 31827095       |
| C810, C811        | Lytic, 50 UF, 100V               | 31818897       |

## DIODES

|             |          |          |
|-------------|----------|----------|
| CR1-CR800   | Not Used |          |
| CR801-CR803 | 200 PIV  | 41022464 |

## COILS

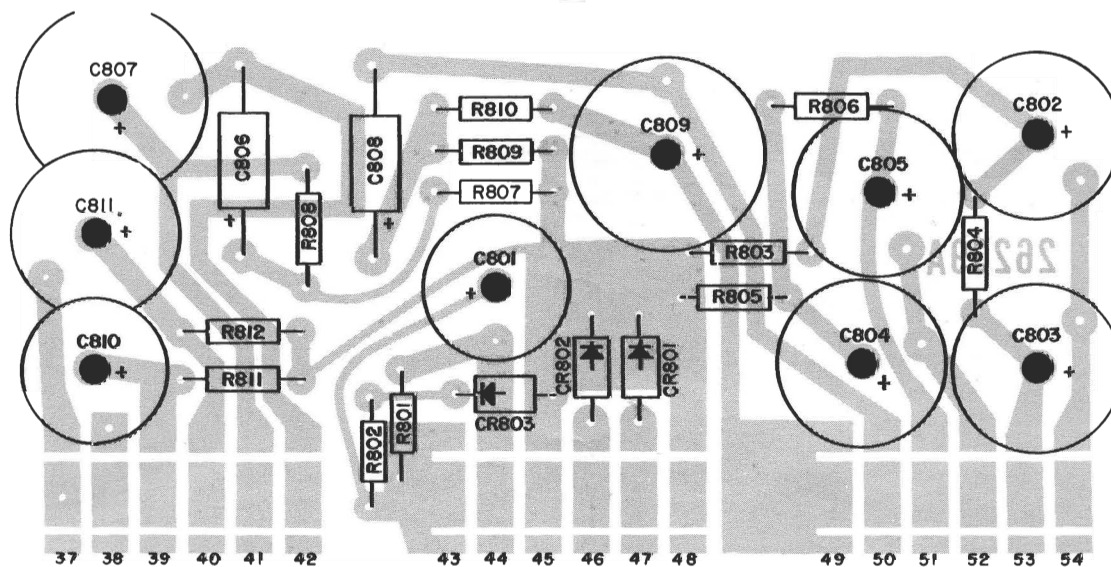
|         |                         |          |
|---------|-------------------------|----------|
| L1-L600 | Not Used                |          |
| L601    | Choke, 1H $\pm 10\%$    | 12027623 |
| L602    | Choke, 0.6H $\pm 10\%$  | 12027624 |
| L603    | Choke, 102MH $\pm 10\%$ | 12025894 |
| L604    | Choke, 22 MH $\pm 10\%$ | 12025896 |
| L605    | Choke, 10 MH $\pm 10\%$ | 12025895 |

| CIRCUIT<br>REF.    | DESCRIPTION                   | HK<br>PART NO. |
|--------------------|-------------------------------|----------------|
| <b>TRANSISTORS</b> |                               |                |
| Q1-Q500            | Not Used                      |                |
| Q501               | BC239C Seimens                | 43027872       |
| Q502               | 2N3417 Motorola EL-238 Series | 43025972       |
| Q503               | BC239C Seimens                | 43027872       |
| Q504, Q505         | 2N3417 Motorola EL-238 Series | 43025972       |
| Q506               | FET P-CHAN AMELCO             | 43022956       |
| Q507               | 2N3417 Motorola EL-238 Series | 43025972       |
| Q508               | FET P-CHAN AMELCO             | 43022956       |
| Q509               | 2N3417 Motorola EL-238 Series | 43025972       |
| Q510               | FET P-CHAN AMELCO             | 43022956       |
| Q511               | 2N3417 Motorola EL-238 Series | 43025972       |
| Q512-Q600          | Not Used                      |                |
| Q601               | 2N3417 Motorola EL-238 Series | 43025972       |

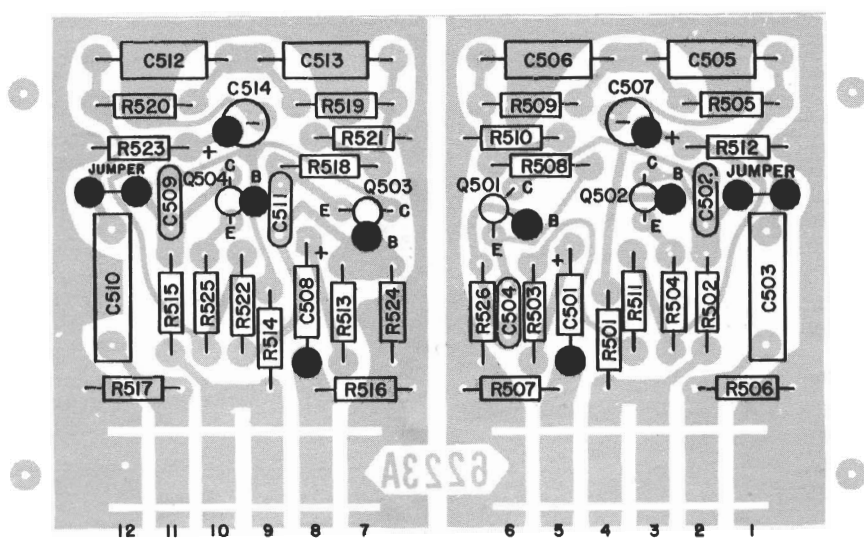
## RESISTORS

|            |                                    |          |
|------------|------------------------------------|----------|
| R1, R2     | 15K $\pm 10\%$ , $\frac{1}{4}$ W   | 33211531 |
| R3         | 3.3K $\pm 10\%$ , 3W Wire Wound    | 36613321 |
| R4, R5     | 3.3K $\pm 10\%$ , $\frac{1}{4}$ W  | 33213321 |
| R6, R7     | 330 $\pm 10\%$ , 5W Wire Wound     | 36713311 |
| R8-R500    | Not Used                           |          |
| R501       | 1 meg $\pm 10\%$ , $\frac{1}{4}$ W | 33211051 |
| R502       | 12K $\pm 10\%$ , $\frac{1}{4}$ W   | 33211231 |
| R503       | 1K $\pm 10\%$ , $\frac{1}{4}$ W    | 33211021 |
| R504       | 100 $\pm 5\%$ , $\frac{1}{4}$ W    | 33211015 |
| R505       | 24K $\pm 1\%$ , $\frac{1}{4}$ W    | 33212433 |
| R506       | 150K $\pm 10\%$ , $\frac{1}{4}$ W  | 33211541 |
| R507       | 470K $\pm 10\%$ , $\frac{1}{4}$ W  | 33214741 |
| R508       | 180 $\pm 5\%$ , $\frac{1}{4}$ W    | 33211815 |
| R509       | 390K $\pm 1\%$ , $\frac{1}{4}$ W   | 33213943 |
| R510       | 560 $\pm 5\%$ , $\frac{1}{4}$ W    | 33215615 |
| R511       | 470K $\pm 10\%$ , $\frac{1}{4}$ W  | 33214741 |
| R512       | 2.0K $\pm 5\%$ , $\frac{1}{4}$ W   | 33212025 |
| R513       | 1K $\pm 10\%$ , $\frac{1}{4}$ W    | 33211021 |
| R514       | 1 meg $\pm 10\%$ , $\frac{1}{4}$ W | 33211051 |
| R515       | 12K $\pm 10\%$ , $\frac{1}{4}$ W   | 33211231 |
| R516       | 470K $\pm 10\%$ , $\frac{1}{4}$ W  | 33214741 |
| R517       | 150K $\pm 10\%$ , $\frac{1}{4}$ W  | 33211541 |
| R518       | 180 $\pm 5\%$ , $\frac{1}{4}$ W    | 33211815 |
| R519       | 390K $\pm 10\%$ , $\frac{1}{4}$ W  | 33213943 |
| R520       | 24K $\pm 1\%$ , $\frac{1}{4}$ W    | 33212433 |
| R521       | 560 $\pm 5\%$ , $\frac{1}{4}$ W    | 33215615 |
| R522       | 470K $\pm 10\%$ , $\frac{1}{4}$ W  | 33214741 |
| R523       | 2.0K $\pm 5\%$ , $\frac{1}{4}$ W   | 33212025 |
| R524       | 68K $\pm 10\%$ , $\frac{1}{4}$ W   | 33216831 |
| R525, R526 | 68K $\pm 10\%$ , $\frac{1}{4}$ W   | 33216831 |
| R527       | 2.2M $\pm 10\%$ , $\frac{1}{4}$ W  | 33212251 |
| R528       | 1M $\pm 10\%$ , $\frac{1}{4}$ W    | 33211051 |
| R529       | 470K $\pm 10\%$ , $\frac{1}{4}$ W  | 33214741 |
| R530       | 1K $\pm 10\%$ , $\frac{1}{4}$ W    | 33211021 |
| R531       | 47K $\pm 10\%$ , $\frac{1}{4}$ W   | 33214731 |
| R532       | 2.2M $\pm 10\%$ , $\frac{1}{4}$ W  | 33212251 |
| R533       | 150K $\pm 10\%$ , $\frac{1}{4}$ W  | 33211541 |
| R534       | 390 $\pm 10\%$ , $\frac{1}{4}$ W   | 33213911 |
| R535       | 220 $\pm 5\%$ , $\frac{1}{4}$ W    | 33212215 |
| R536       | 5.6K $\pm 5\%$ , $\frac{1}{4}$ W   | 33215625 |
| R537       | 1.5M $\pm 10\%$ , $\frac{1}{4}$ W  | 33211551 |
| R538       | 5.6 $\pm 10\%$ , $\frac{1}{4}$ W   | 33215621 |
| R539       | 68K $\pm 10\%$ , $\frac{1}{4}$ W   | 33216831 |
| R540       | 1K $\pm 10\%$ , $\frac{1}{4}$ W    | 33211021 |
| R541       | 470K $\pm 10\%$ , $\frac{1}{4}$ W  | 33214741 |
| R542       | 47K $\pm 10\%$ , $\frac{1}{4}$ W   | 33214731 |
| R543       | 150K $\pm 10\%$ , $\frac{1}{4}$ W  | 33211541 |
| R544       | 390 $\pm 10\%$ , $\frac{1}{4}$ W   | 33213911 |
| R545       | 220 $\pm 5\%$ , $\frac{1}{4}$ W    | 33212215 |
| R546       | 5.6K $\pm 5\%$ , $\frac{1}{4}$ W   | 33215625 |
| R547       | 5.6K $\pm 10\%$ , $\frac{1}{4}$ W  | 33215621 |

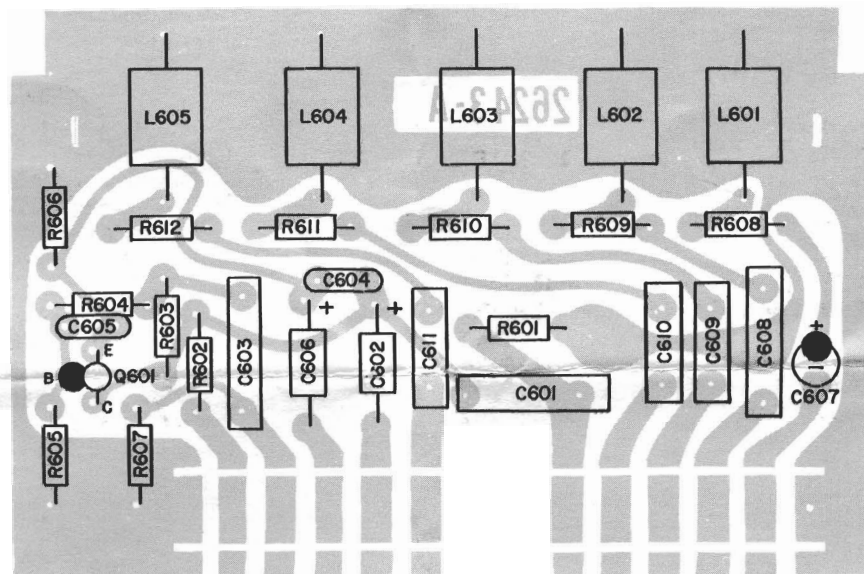
| CIRCUIT<br>REF.      | DESCRIPTION                       | HK<br>PART NO. | DESCRIPTION                    | HK<br>PART NO. |
|----------------------|-----------------------------------|----------------|--------------------------------|----------------|
| <b>RESISTORS</b>     |                                   |                | Light Shield, Fishpaper,       |                |
| R548                 | 100 $\pm 10\%$ , $\frac{1}{4}$ W  | 33211011       | Slide Control                  | 61426352       |
| R549-R600            | Not Used                          |                | Function Switch                | 24025502       |
| R601                 | 470 $\pm 10\%$ , $\frac{1}{4}$ W  | 33214741       | Mode Switch                    | 24025430       |
| R602                 | 3.3K $\pm 10\%$ , $\frac{1}{4}$ W | 33213321       | Pushbutton Switch, Power       | 25026153       |
| R603                 | 2.2M $\pm 10\%$ , $\frac{1}{4}$ W | 33212251       | Pushbutton Switch, DPDT        | 25026151       |
| R604                 | 1K $\pm 10\%$ , $\frac{1}{4}$ W   | 33211021       | Headphone Jack W/Hardware      | 65426283       |
| R605                 | 1.5M $\pm 10\%$ , $\frac{1}{4}$ W | 33211551       | Speaker Selector Switch        | 24025431       |
| R606                 | 3.3K $\pm 10\%$ , $\frac{1}{4}$ W | 33213321       | Speaker Selector Switch Shaft  | 60426231       |
| R607                 | 1M $\pm 10\%$ , $\frac{1}{4}$ W   | 33211051       | Speaker Switch Shaft Coupler   | 60426216       |
| R608                 | 270 $\pm 10\%$ , $\frac{1}{4}$ W  | 33212711       | Speaker Switch Shaft Bushing   | 61613253       |
| R609-R612            | 470 $\pm 10\%$ , $\frac{1}{4}$ W  | 33214711       | Pilot Light Jewel              | 61626346       |
| R613-R800            | Not Used                          |                | Pilot Lamp                     | 46527153       |
| R801                 | 15K $\pm 10\%$ , $\frac{1}{2}$ W  | 33311531       | Fuse Holder W/Hardware         | 65410901       |
| R802                 | 10K $\pm 10\%$ , $\frac{1}{2}$ W  | 33311031       | Fuse, 0.25A-3AG                | 45026404       |
| R803-R806            | 3.9K $\pm 10\%$ , $\frac{1}{2}$ W | 33313921       | Line Cord                      | 53021115       |
| R807-R810            | 15K $\pm 10\%$ , $\frac{1}{2}$ W  | 33311531       | Strain Relief                  | 65421116       |
| R811, R812           | 3.3K $\pm 10\%$ , $\frac{1}{2}$ W | 33313321       | AC Receptacle, Black           | 65416751       |
|                      |                                   |                | AC Receptacle, White           | 65427146       |
| <b>TRANSFORMER</b>   |                                   |                | Ground Terminal                | 65426317       |
| T1                   | Power                             | 10125602       | Speaker Connection Strip       | 65426351       |
| <b>CONTROLS</b>      |                                   |                | Power Amp. Input Conn., Female | 65426341       |
| VR1                  | Volume, 50K, Rotary               | 22026162       | Power Amp. Input Conn., Male   | 65426340       |
| VR2                  | Balance, 50K, Rotary              | 22026161       | RCA Jack Ass'y                 | 65426318       |
| VR3-VR7              | Audio Equalizers, 50K, Slide      | 22125397       | Tone Control PC Board          |                |
| <b>MISCELLANEOUS</b> |                                   |                | W/Components                   | 00126143       |
|                      | Knob, Rotary                      | 63228028       | Phono Preamp PC Board          |                |
|                      | Knob, Slide                       | 63228033       | W/Components                   | 00126344       |
|                      | Knob, Pushbutton                  | 00228324       | Preamp Output PC Board         |                |
|                      | Escutcheon                        | 63028247       | W/Components                   | 00126345       |
|                      | Top Cover                         | 60125936       | Power Supply PC Board          |                |
|                      | Bottom Plate                      | 60125937       | W/Components                   | 00126346       |
|                      | Rubber Foot                       | 62011692       | PC Board Connector Strip       | 65425278       |
|                      |                                   |                | PC Board Guide, Edge Mounting  | 61626248       |
|                      |                                   |                | PC Board Guide, Free Standing  | 61626267       |
|                      |                                   |                | Owner Manual                   | 90726401       |
|                      |                                   |                | Technical Manual               | 90728859       |
|                      |                                   |                | Speaker Patch Cable            | 57526338       |



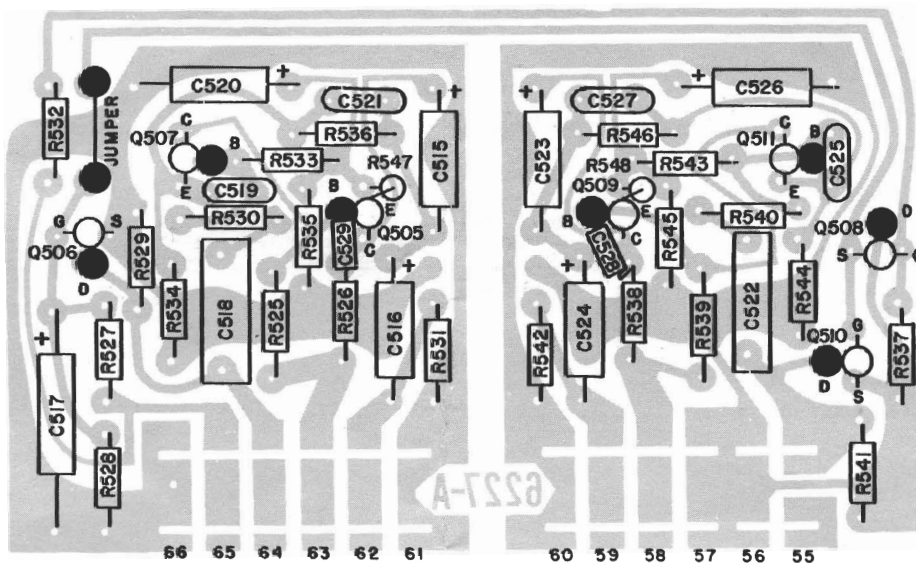
**POWER SUPPLY PC BOARD**



PHONO PREAMP PC BOARD

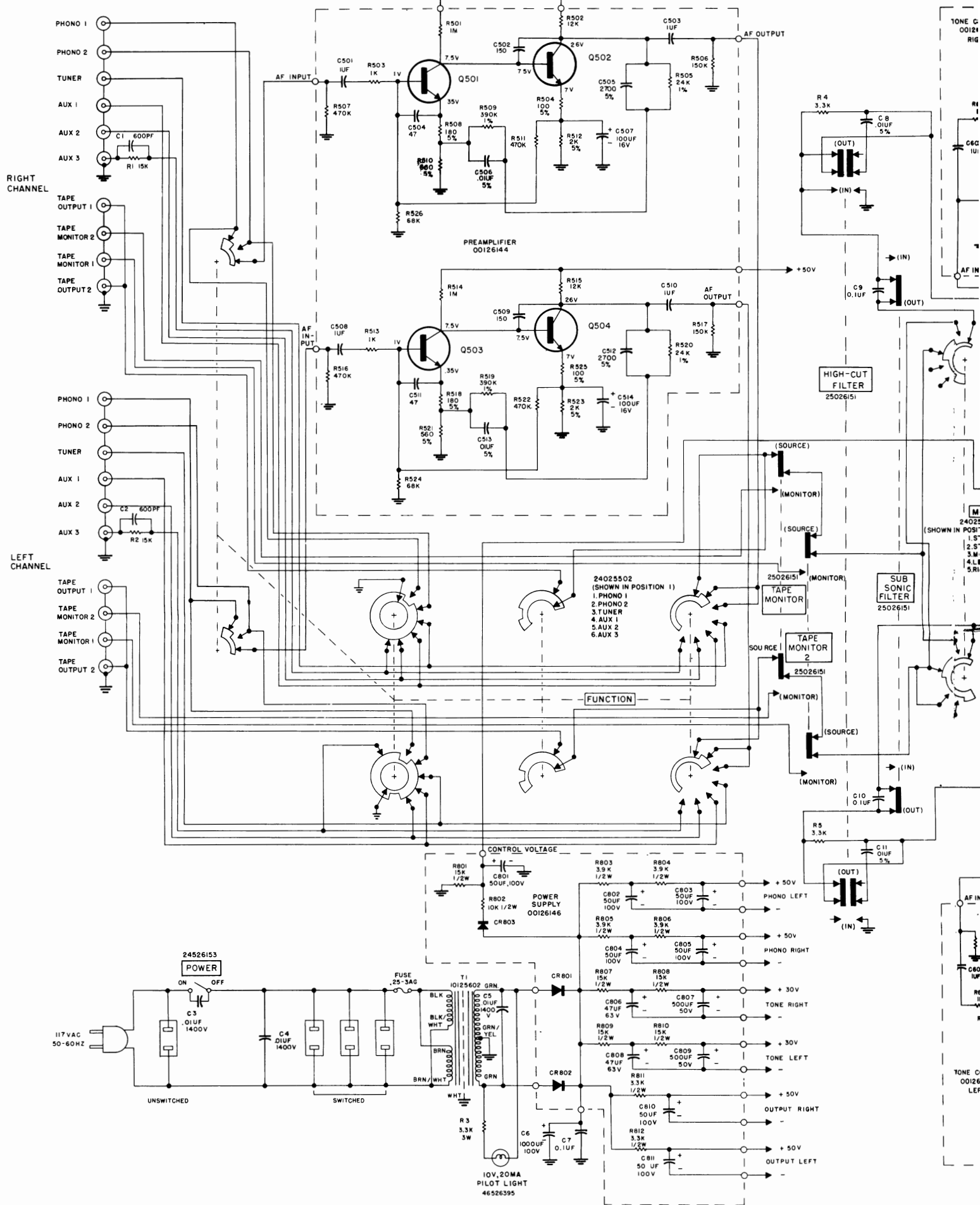


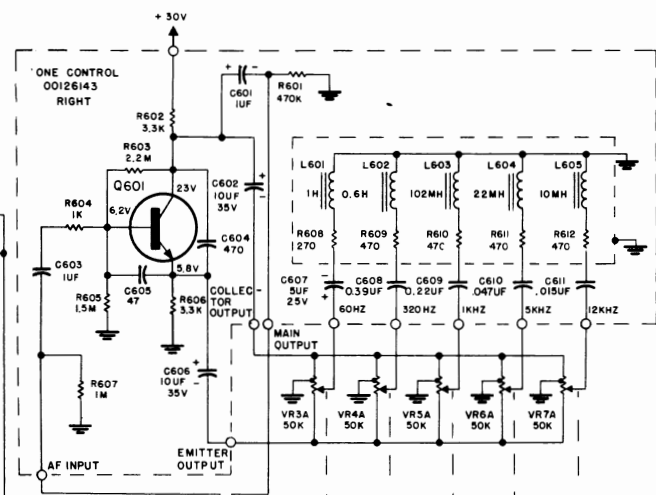
TONE CONTROL PC BOARD



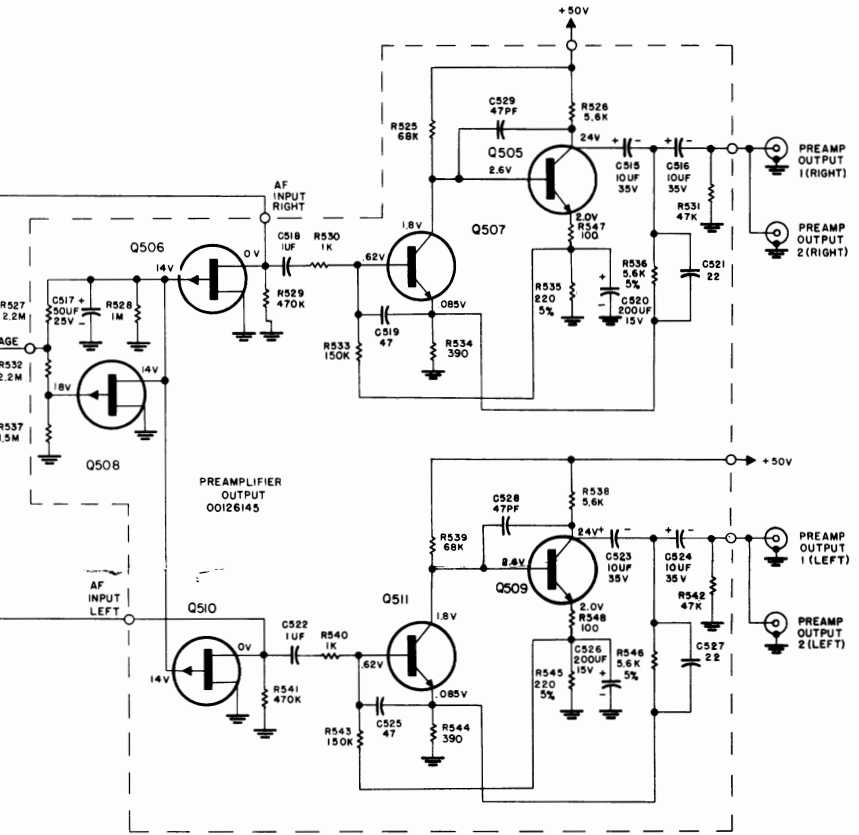
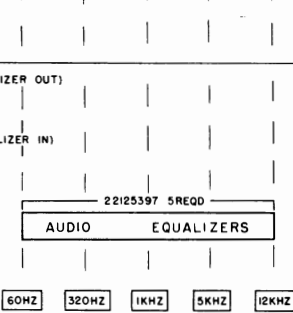
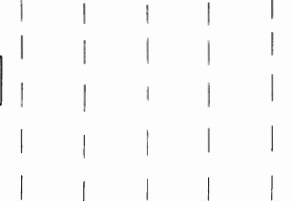
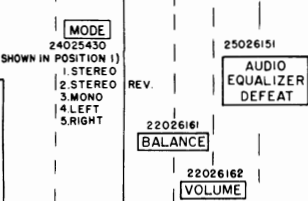
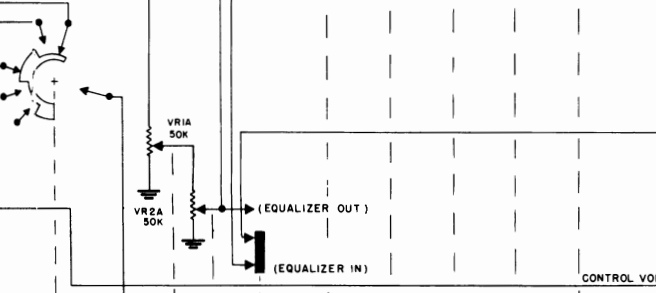
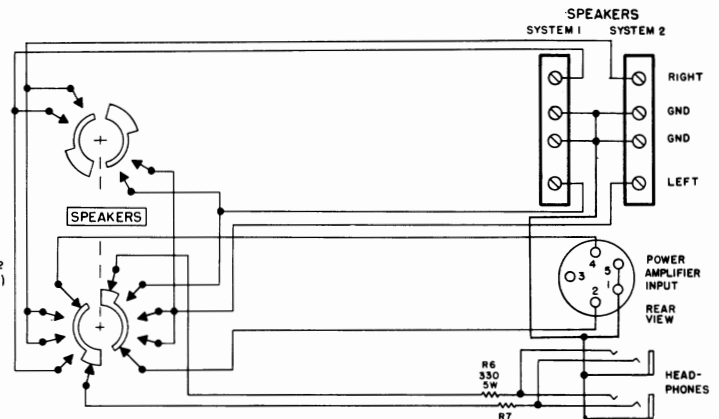
PREAMP OUTPUT PC BOARD

# SCHEMATIC





24025431  
1. PHONES  
2. SYSTEM 1  
3. SYSTEM 2  
4. SYSTEM 1 + 2  
(SHOWN IN POSITION 1)



| Q NO.       | HK. P/NO. | 2N NO.  |
|-------------|-----------|---------|
| Q502-Q4-Q5, |           |         |
| Q507, Q509, | 43025972  | 2N3417  |
| Q511, Q601  |           |         |
| Q506, Q508  | 43022956  | NONE    |
| Q510        |           |         |
| Q501-Q503   | 43027872  | BC 239C |

NOTES:  
1. ALL RESISTORS IN OHMS UNLESS FOLLOWED BY K (1,000) OR M (1,000,000).  
ALL RESISTORS 1/4 WATT EXCEPT AS NOTED.  
2. ALL CAPACITORS IN PICOFARAD UNLESS FOLLOWED BY UF (MICROFARADS)  
3. ALL INDUCTORS IN MICROHENRIES UNLESS FOLLOWED BY MH (MILLIHENRIES) OR H (HENRIES)  
4. ALL VOLTAGES TAKEN WITH '0' SIGNAL.

